PHILADELPHIA, AUGUST 31, 1878.

ORIGINAL COMMUNICATIONS.

THE PHYSIOLOGICAL ACTION OF IPECACUANHA AND ITS ALKALOID.*

BY JOHN K. FOULKROD, M.D.

EMETIA was discovered in 1817 by Pelletier (*Jour. de Pharm.*, iii. 145). When pure it is a white, uncrystallizable, odorless powder, of a bitter, burning taste, soluble in one thousand parts of water at 50° Cent., freely soluble in dilute and absolute alcohol and chloroform, slightly soluble in ether.

Test.—Dr. Dyce Duckworth (St. Bartholomew's Hosp. Rep., vol. vii.) gives a characteristic test for emetia. His method, which has been repeatedly employed by myself, is as follows:

To a solution of emetia tannic acid is first added, and to the mixture a small quantity of aqua ammoniæ; a red color is produced which changes to an orange.

General Action.—In a number of experiments made by myself I have corroborated those of Dr. D'Ornellas (*Gaz. Méd.*, 1873, p. 537).

Local Action.—In my experiments made with the drug applied locally I have found that it causes a progressive loss of functional power of nerves and striated muscles.

Dr. Duckworth (*loc. cit.*) further states that it causes an eruption when applied upon the sound skin.

Action on the Circulatory System.—Dr. D'Ornellas (*loc. cit.*) states that emetia neither depresses nor increases the blood-force; and in two experiments made by Dr. Duckworth (*loc. cit.*) the alkaloid failed to influence the circulation until very late in the poisoning. In experiments made by myself I have noticed that after injections of very small doses of the drug into the jugular vein, there is a slight rise followed by a sudden fall in the arterial pressure.

Exp. I.—Rabbit; canula in left carotid; injected one-eighth grain into right jugular.

Time.	Pressure.	
12.52	60	Normal.
12.52.5		Injected.
12.52.10	63	
12.52.30	30	
12.53.30	28	
12.55	18	
12.55.30		Animal dead.

This experiment was repeated several times, with precisely similar results.

It is evident that emetia decreases the arterial pressure.

To determine whether or not this fall in the pressure is due to irritation of the pneumogastric centres, trunks, or peripheral terminations in the heart, I made the following experiment:

Exp. II.—Rabbit; vagi divided; canula in left carotid; injected one thirty-second grain into right jugular.

Time.	Pressure.	
11.29.45	47	
11.30		Injected.
11.30.10	48	
11.30.15	32	
11.30.20	18	
11.31	18	

A repetition of this experiment gave identical results. The same fall of pressure occurred as when the vagi are not divided. The next thing was to determine whether or not this drug still produces a decrease in pressure after section of the spinal cord above the origin of the splanchnic nerves.

Exp. III.—Rabbit; cord cut at fifth cervical vertebra; canula in left carotid; injected one thirty-second grain into right jugular.

Time.	Pressure.	
2.34.50	73	
2.34.55		Injected.
2.35.3	71	
2.35.10	55	
2.35.30	22	
2.36		Dead.

It is evident from these experiments that the fall in the arterial pressure is due to a direct action on the heart, *i.e.*, to cardiac paralysis. This conclusion is further confirmed by the following experiment made on a frog, in which the drug was placed directly on the heart.

Exp. IV.—Frog; exposed the heart and placed a solution (gr. iv to ℥i) directly upon it.

Time.	Pulse.	
2.7	68	
2.8		Solution placed on heart.
2.11	41	
2.17	10	
2.25		Heart ceased beating, arrested in diastole, and no longer responds to irritants.

* Abstract of a prize inaugural thesis, University of Pennsylvania.

Pulse.—Dr. Duckworth (*loc. cit.*) states that in emetia-poisoning the pulse is not constantly affected.

In several experiments made by myself, I have found that the pulse is first increased and then becomes very slow and irregular. As the diminution in the number of pulsations occurs after section of the vagi and spinal cord, the decrease must be due to a direct action on the heart.

ACTION ON THE INHIBITORY NERVES.

When the pneumogastrics of a healthy adult animal are irritated by means of a strong induced current, inhibition—*i.e.*, complete cessation of the beat of the heart—occurs. Accompanying this cessation of the heart's beat there is a decided fall in the arterial pressure. It has been shown that certain drugs, especially atropine, prevent this inhibition by paralyzing the inhibitory fibres of the pneumogastrics. I have found that emetia has a similar effect, as shown by the following experiments.

Exp. V.—On a rabbit; canula in left carotid; vagi previously cut; injection of fluid extract of ipecac into right jugular.

Time.	Pressure.	Pulse in 10 Sec.	Remarks.
12.30	70	24	
12.30.5	54	No pulse.	Irritation of vagi.
12.30.10	48	"	Irritation ceased.
12.30.15	70	16	
12.30.20	77	20	Injected 5 ♏ fluid ext.
12.30.30	76	21	
12.30.40	71	No pulse.	Irritation of vagi.
12.30.45	52	"	" "
12.30.50	50	"	Irritation ceased.
12.30.55	73	16	
12.31	63	20	
12.32	63	26	
12.32.25	63	26	Injected 5 ♏ fluid extract.
12.32.40	68	No pulse.	Irritation of vagi.
12.32.45	50	"	Irritation ceased.
12.32.50	70	18	
12.33	57	16	
12.34	57	20	
12.34.5	60		Injected 5 ♏ fluid extract.
12.34.30	67	Pulse continued unable to count.	Irritation of vagi.
12.34.35	57	Pulse continued unable to count.	Irritation ceased.
12.35	64	14	

Exp. VI.—On a rabbit; canula in left carotid; injection of fluid extract of ipecac into right jugular.

Time.	Pressure.	Pulse in 10 Sec.	Remarks.
1.15	80	24	Vagi cut; normal.
1.15.10			Irritation of vagi.
1.15.15	51	No pulse.	" "
1.15.20	49	"	Irritation ceased.
1.15.25	83	16	
1.15.30	85	20	Injected 5 ♏ fluid extract.
1.15.35	85	21	Irritation of vagi.
1.15.40	73	No pulse.	Irritation ceased.
1.15.45	82	12	
1.15.50	67	No pulse.	Irritation of vagi.
1.16	52	8	Irritation ceased.
1.17	55	16	
1.17.10	60	14	Irritation of vagi.
1.17.25	60	14	" "
1.17.30	60	14	Injected 5 ♏ fluid extract.
1.17.35	60	14	
1.17.50	60	14	Irritation of vagi.
1.18	60	14	Irritation ceased.

It will be seen in the above experiments that the irritation of the pneumogastrics, after injection of ipecac, no longer produces cardiac inhibition, and the effect on the blood-pressure gradually diminishes also. From this I must conclude that ipecac paralyzes the inhibitory fibres of the pneumogastrics.

ACTION ON THE NERVOUS SYSTEM.

On the Brain.—It has been announced by Magendie (Nouveaux Médicaments, 1835) that emetia causes sleep; and it has been further stated by Polichromi (L'Ipecacuanha) that the drug in large doses kills by its action on the brain.

In several of my experiments sleep was produced by the use of the drug. In several instances in mammals I have observed convulsions following the use of the emetia.

Exp. VII.—Mouse; injected one-eighth grain into abdomen at 2.27; violent convulsions at 2.28½.

Exp. VIII.—Mouse; cord cut in lower dorsal region; injected one-eighth grain of emetia into abdomen at 9.45½; convulsion both anterior and posterior at 9.46.

This experiment proves that the convulsions were of spinal origin.

Gastro-Intestinal Action.—In small doses emetia causes decided gastro-intestinal symptoms. In larger doses death ensues from the violent enteritis which it provokes. According to D'Ornellas (*loc. cit.*) and Duckworth (*loc. cit.*), emetia produces vomiting much more slowly when thrown into the veins than when given by the stomach. The experiments of Duck-

worth, D'Ornellas, and Pecholier show that vomiting follows the hypodermic use of the drug; they also state that no vomiting occurs after section of the pneumogastrics. Dr. Polichromi (*loc. cit.*) further states that when the drug is given hypodermically, vomiting occurs the instant the drug is eliminated by the gastric mucous membrane.

That emetia has no direct vomitive action upon the central nervous system was shown by injecting the drug into the carotid artery: no immediate vomiting occurred.

That the drug causes vomiting when used hypodermically is shown by the following:

Exp. IX.—Small dog; injected at 11.54 one-fourth grain of emetia subcutaneously; vomiting at 12.50.

Exp. X.—Cat; vagi cut; introduced sixty minims fluid extract of ipecac into stomach at 3.58; violent attempts at vomiting at 4.5.

In the above experiment there was no emesis after section of the vagi, although there were violent attempts. Dr. Duckworth (*loc. cit.*) states that he is unable to offer any explanation of the absence of this most common symptom. It has been shown by numerous investigators that no vomiting can occur after section of the vagi, on account of the œsophageal sphincter being paralyzed.

I think it has been clearly shown in the previous experiments that the drug causes emesis by its irritant action on the mucous membrane of the stomach.

Action on the Respiratory System.—D'Ornellas and Duckworth state that emetia in toxic doses usually kills by arresting the respiration. I have noticed in many of my experiments that the effect of a dose of emetia is to cause a decrease in the number of respiratory movements, and if the dose be sufficiently large it causes their complete cessation; the heart continues to beat for a long time after the respirations have ceased. After section of the vagi the same phenomena were present, showing that the vagi do not participate in the slowing of the respiratory movements.

Action on the Muscular System.—The voluntary muscles escape unscathed in emetia-poisoning; they continue to respond to galvanism for a long time after death. The contractility of the muscles, however, may be destroyed by painting with a strong solution of the alkaloid. I have registered numerous muscle-curves with Marey's myographion. To show that a long contact of emetia will destroy the contractility of a muscle, I submit the following:

Exp. XI.—The gastrocnemius muscle of a frog was prepared and painted with a solution of emetia (gr. iv to ʒj).

Time.	Remarks.	Height of Contraction of Muscle.
2	Irritation.	3
2.1	Painted.	
2.1.30	Irritation.	2½
2.4.30	"	1½
2.6.15	"	1

Absorption and Elimination.—That emetia is absorbed is beyond doubt, as I have been able to confirm the statement of Dr. Duckworth, that it is to be found in the urine of animals poisoned by it. Absorption takes place without regard to the manner in which the drug is introduced into the system, but when placed upon the sound skin absorption does not take place.

Emetia will produce vomiting when applied to a blistered surface, after removing the cuticle (U. S. Dispensatory, p. 440).

Elimination.—The following experiment proves that the drug is eliminated by the urine.

Exp. XII.—Rabbit; poisoned by emetia; the bladder was removed, and the urine treated as follows. A small quantity of nitric acid was added to coagulate any albumen; to this was added a solution of tannic acid, the aqua ammoniæ, which gave a red color, finally turning to an orange.

Action on the Glandular System.—One of the effects of a large dose of emetia in a number of my experiments was to increase the secretion of the salivary glands. This increase is due to a local irritant action, as it only occurs when the drug is given by the mouth.

Urinary Secretion.—The drug apparently does not increase the quantity of the urine; it however modifies the quality, as I as well as Duckworth (*loc. cit.*) have found that albumen occurs in the urine of animals poisoned by it.

Action on the Liver.—Pecholier (*loc. cit.*) affirms that in animals killed by ipecac no hepatic glucose can be found.

In my experiments I have not been able to confirm this assertion of Pecholier, as is shown by the following:

Exp. XIII.—Cat; killed with fluid extract of ipecac. The liver was removed and examined for glucose after the method described by Brunton, which is as follows. The liver was

washed, macerated, and thrown into boiling water containing a small percentage of acetic acid to coagulate the albumen. The acetic acid was neutralized by adding a solution of caustic potassa. The whole was then thrown upon a filter, and the filtrate tested by both Heller's and Trommer's tests, with unmistakable evidence of the presence of glucose.

Action on the Blood.—Unlike some alkaloids, emetia has no direct action on the blood-corpuscles. To observe this, I experimented as follows:

Exp. XIV.—A drop of blood was placed on a glass slide under a microscope, and a small quantity of emetia was added, but no effect was observed.

Action on the Pupil.—Dr. Polichromi (*loc. cit.*) states that emetia dilates the pupil. My experiments do not agree with those of Polichromi, as I have never observed any effect upon the pupil whatsoever, either when the drug is applied locally or introduced into the general circulation.

CONCLUSIONS.

1. When locally applied, emetia produces a progressive loss of functional power of the nerves and striated muscles. If such contact be continued even but for a short time, the tissues do not recover.

When directly applied to the brain and spinal cord, no action is manifest.

2. The fall in the arterial pressure produced by an injection of emetia is caused by the direct action of the drug upon the heart,—*i.e.*, by cardiac paralysis.

3. The movements of the heart are first accelerated and afterwards diminished by the action of emetia; the diminution in the frequency of the heart's movements is due to cardiac paralysis.

4. Emetia paralyzes the cardiac inhibitory fibres of the pneumogastrics.

5. The sleep and coma produced by the drug are due to its action on the brain.

6. The emetia convulsions are spinal in their origin. The abolition of reflex activity is also due to the action on the spinal cord.

7. The vomiting caused by emetia is due to a local action on the stomach.

8. The drug produces slowing of the respiratory movements; the slowing still occurs after the pneumogastrics are cut.

9. The voluntary muscles escape unscathed in emetia-poisoning; their contractility, however, may be destroyed by painting with a solution of the alkaloid.

10. Emetia is absorbed and is eliminated unchanged by the kidneys; it is also eliminated by the gastro-intestinal mucous membrane.

11. The salivation induced by emetia is due to its local action on the nerves in the mouth.

The introduction of emetia into the stomach subcutaneously or into a vein is followed by albuminuria.

Glucose is found in the liver after poisoning by ipecac.

12. Emetia has no direct action on the blood.

13. Emetia has no action on the pupil, either when the drug is applied locally or introduced into the general circulation.

PHYSIOLOGICAL LABORATORY OF THE UNIVERSITY OF PENNSYLVANIA, March, 1878.

ON SOLUTION OF IODINE IN OIL OF BITTER ALMONDS.

BY E. T. BLACKWELL, M.D.

THE want of a solution of iodine which shall not precipitate in the stomach, and especially of one which shall be easily miscible with oil, has been long felt. The French chemists, by a tedious process, made a solution in oil of sweet almonds; but it was liable to rancidity, while the large amount of the solvent necessary to be taken with each dose rendered it unacceptable.

The writer of this article, very early in his medical career, had his thoughts turned towards a more complete iodizing of cod-liver oil, thinking that the amount of iodine contained in this medicinal agent was too small to exert its full remedial power. Failing in his efforts to cause direct union, he gave up his attempt, but did not relinquish the idea.

Early in the year 1870, while engaged in pharmaceutical manipulations, he discovered the extreme solubility of iodine in the oil of bitter almonds. He was at that time ignorant of the reference in the United States Dispensatory* to Zeller, who speaks of this solubility as "slow and partial." His remark seems to have attracted no attention; yet the fact is a most valuable one, opening the way to many combinations of great importance to therapeutists.

* Art. Ol. Amygd. Amar., p. 589.

On placing together powdered iodine and the oil of bitter almonds, the violet color of the former is immediately, and with great intensity, imparted to the latter; and if they are allowed to remain in contact for a rather long period,—two months or more,—they unite in the proportion of one of iodine to three of the oil. This solution mixes freely with oils, fats, glycerin, alcohol, ethers, and fluid extracts of vegetable matter, and is alone a most eligible concentrated preparation for application to parts where a thin fluid is liable to be swept away, as in the throat, the nares, vagina and uterus, and where, at best, only a small amount can be made to adhere. As the physiological rather than the chemical action is desirable in a topical application of iodine, this preparation merits acceptance, because it leaves the tissue soft and in good condition for absorption.

*Formula for Iodized Oil of Bitter Almonds.**

℞ Pulvis iodinii, ℈j;
Olei amygdalæ amaræ, ʒj.
Mix, and shake occasionally for two months.

This may be combined with many other remedies for external application, to meet many different indications. If the purpose be to induce resolution of swollen glands, soap liniment may be chosen; if to produce counter-irritation or blistering, cantharidal collodion or croton oil would be suitable. For general external use, in which an emollient, unstaining, and less concentrated article is desirable, the iodized oil of almonds with glycerin fulfils all the indications, leaving the skin after its application supple and without stain. This is beyond comparison superior to "iodine paint," which corrugates the skin and hinders absorption; or to the greasy, uncleanly ointment.

Formula for Iodized Glycerin.

℞ Iodized oil of bitter almonds, ʒj;† Glycerin, ʒvij.—M.

This is a most elegant form for external use, and may, properly diluted, be administered internally, in doses of two drops, = $\frac{1}{10}$ gr. of iodine and $\frac{1}{8}$ oil of bitter almonds.

The system is said to be best affected by iodine in minute doses and in exceedingly dilute form, as in the natural mineral waters, all excess of the remedy being carried off by the emunctories. To meet this view an iodized water may be made:

℞ Iodized glycerin, ʒj;‡
Water, Oj.—M.

This contains about the amount of iodine found in four pints of the water of Iodine Spring, Saratoga,‖ and has about the strength of Lugol's iodine lotion.

A tablespoonful, containing $\frac{1}{10}$ gr. of iodine and $\frac{1}{8}$ gr. of oil of bitter almonds, may be taken, diluted at pleasure, for a dose.

It is, however, to the iodizing more completely than it exists in nature of cod-liver oil, that the efforts of physicians and pharmacists have been bent,—all feeling that the therapeutic value of this remedy would be greatly enhanced by combination with a larger amount of iodine. The discovery of the solubility of the latter substance in oil of bitter almonds removes all the difficulty. We have only to add the iodized oil to the cod-liver oil, and, on agitation, complete and permanent union takes place. I may add, what is well known, that a proprietary article, claiming to be composed of cod-liver oil, iodine, bromine, and phosphorus, has been long before the public, and has received quasi-recognition in the United States Dispensatory, and the endorsement of many physicians. This compound is, however, vended at a very high price; its working formula is unknown to the writer and, he presumes, to the general pharmacist. The profession, therefore, may not be averse to a formula which may be filled by any physician or druggist. The following form I have used for several years in making

Iodized Cod-Liver Oil.

℞ Iodized oil of bitter almonds, gr. xvi;
Cod-liver oil, Oj.
Mix, and shake. A teaspoonful, containing $\frac{1}{12}$ gr. of iodine and $\frac{1}{10}$ gr. of oil of bitter almonds, may be taken for a dose.

If thirty grains of the iodized oil of bitter almonds, two drachms of phosphorated cod-liver oil,¶ and one grain of bromine, be used to the pint of cod-liver oil, the ingredients and proportions of Fougera** will be had, plus twenty-four grains of oil of bitter almonds.

Very efficient combinations may be made by uniting the iodized almond oil with alterative fluid extracts and potassic iodide:

℞ Pot. iodidi, ʒii;
Ol. amygdalæ iod., gr. iv;
Ext. stillingiæ fl., ʒiij;
Syr. helianthemi, ʒviiss.
M. Dose, c. m. ter in die.

I may add that I have not discovered

* Containing twenty per cent. of iodine.
† = 15 gr. iodine.
‡ = 2 gr. iodine.
‖ Analysis of Emmons.
¶ Art. Iodinium, U. S. D., p. 489.
** U. S. D., p. 604.
One per cent.

the influence of bitter-almond oil as a factor in the various prescriptions used by me, except as a soothing remedy. I commend them with great confidence to the profession, believing they will meet with hearty acceptance and be greatly useful.

CASE OF TRACHEOTOMY FOR PSEUDO-MEMBRANOUS CROUP.

BY W. HOBSON HEATH, M.D.,

Resident Physician Philadelphia Hospital, Ex-Resident University Hospital.

JOHN M., aged 22 months, a fine, rugged child, of healthy parents, was admitted into the Children's Asylum of this hospital in consequence of poverty. Mother said it had a slight cold for one or two weeks, but there was no evidence of it on admission. Eight days after, during which time it was perfectly well and lively, a slight, croupy cough was noticed by the nurse during the night, but no hoarseness or other symptoms indicating any serious trouble were present. It slept well, and continued well during the next day until evening, when the cough recurred, with increased croupiness, some dyspnœa and fever, but no pulmonary implication. Notwithstanding prompt and energetic treatment, which consisted of calomel and ipecac, and emetics, no impression was made upon the disease, and all the characteristic symptoms of true croup developed in their most aggravated form and with remarkable rapidity. Inspiration and expiration were both affected, and accompanied by a loud, harsh noise, and towards morning became terribly labored, with sinking of the epigastrium and supra-sternal space with each effort. The cough was hard and ringing, but there was little or no expectoration. Temperature rose to 103°, with rapid, full pulse, and flushed, anxious face. A fragment of membrane expelled confirmed the diagnosis of pseudo-membranous croup.

As the treatment availed nothing, and the child was rapidly becoming worse, upon consultation with my colleague I determined to perform tracheotomy, before the condition of the child should become so bad that no hope at all could be entertained. The operation, without ether, was devoid of difficulty, except the heaving of the neck in the labored breathing and the large, over-distended inferior thyroid veins. These vessels lay immediately in the way, were very large, and gave some little trouble in getting them one side. When the trachea was exposed just below the isthmus of the thyroid, the breathing suddenly and unexpectedly stopped: I instantly made an opening, applied my lips to the orifice, and removed a good quantity of tenacious mucopus and membrane, which prevented the air from entering (and which could not be removed in any other way, respiration having ceased), set up artificial respiration, keeping the opening apart with a slender pair of uterine forceps, when in a few minutes a gasp or two came, and the breathing slowly recurred, when the tube was inserted. The result was most gratifying, the child being dead to all appearances when the trachea was incised. There was no hemorrhage, no vessel of any size having been cut. The treatment then ordered was chlorate of potash and muriate of ammonia, the room kept at 82°, and lime-water sprays.

After the operation, contrary to expectation from the sudden apparent termination of the case, the patient did remarkably well; so much so that a favorable prognosis was inclined to by some. The tube permitted free breathing, mucus and some membrane were expelled, nourishment was taken, and a quiet sleep followed.

Before operation, pulse 196, respiration 48; one hour after operation, pulse 136, respiration 40, temperature 100°.

This improvement continued with slight variations in the pulse the entire day, during which time he was bright and took nourishment and medicine well.

7.30 P.M.—Pulse, 148; respiration, 36; temperature, 102½°.

No implication of lungs; vesicular murmur clear. Some restlessness coming on, thought to be due to presence of tube.

During the night was very restless; sleep only at short intervals, and induced by chloral; otherwise doing well, only bad sign being the increased fever.

6.30 A.M.—Pulse, 190; respiration, 48; temperature, 102¾°.

Lungs becoming congested; child throwing himself all over the bed.

10.30 A.M.—Pulse, 160; respiration, 54; temperature, 102°.

12.30 P.M.—Pulse, 180; respiration, 60; temperature, 103°.

2 P.M.—Pulse, 184; respiration, 64; temperture, 102°.

2.30 P.M.—Death in convulsions twenty-eight hours after operation.

Post-mortem, twenty-four hours after death, showed the entire trouble to have been confined to the larynx and upper portion of the trachea. The lungs were congested, but nowhere inflamed.

From the point of incision downward there was some mucus and injection of the mucous membrane, but no false membrane, showing that the tube kept everything clear. Above the tube the trachea and larynx were filled with a plug of coagulable exudation, firmly adherent, and completely occluding the glottis. The membrane was very tough and adherent, the mucous membrane beneath highly injected, but there was no apparent ulceration. Pharynx not involved.

This case, like all other cases of trache-

otomy for croup in this hospital, ended fatally, though life was prolonged beyond the average of the cases here, and a chance given for recovery.

The case presented many interesting points. The invasion was sudden and rapid, death occurring in less than thirty-six hours. Writers state that such cases are extremely rare.

The attack was upon the night of the first cool day after the late thermal wave, when the change of temperature was very great and very sudden, with high wind; showing the influence of such changes in the causation of the malady.

The resuscitation by artificial means was an example of the value and importance of persisting in the attempt, even though life be apparently gone. Many present in this instance thought the child beyond hope.

There was a sign present in this case which I have before noticed, and which has also been observed by others in this hospital, the value of which I do not know, never having seen any mention of it. These children all, from the earliest part of the attack, kept chewing an imaginary object in their mouths, puckering their lips, and frequently swallowing.

The post-mortem showed the inflammation to have been a very violent one.

Dr. Formad kindly examined with me several sections of the membrane. It showed a large reticulated mass enclosing in its interstices leucocytes and compound granular cells. The reticulated structure was very transparent, of a hyaline character in some parts, while in other parts it was not to be distinguished from embryonic connective tissue. An interesting and disputed point, clearly shown by these sections, was that the exudation was formed principally beneath the epithelium and basement membrane, and not thrown out upon it. This is contrary to the views held by many pathologists; but Thierfelder, of Leipsic, in his Atlas of Pathological Histology, says that the origin of the membrane is beneath the epithelium, which is itself destroyed. No spores were found in the membrane. This, of course, is not evidence of the identity of diphtheria and croup, as held by many observers, but it is additional evidence that the pathological lesions are not entirely different in each affection, and that some cases partake of the nature of diphtheria in their lesions, with a clear clinical history of croup.

NOTES OF HOSPITAL PRACTICE.

COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

CLINIC OF PROF. A. JACOBI, FOR DISEASES OF CHILDREN.

(Reported by P. Brynberg Porter, M.D.)

SUPPURATIVE BURSITIS.

GENTLEMEN,—You will doubtless remember this girl (aged 11 years), with trouble about the knee, who was here some little time ago, and in whom I made an incision into the bursa under the ligamentum patellæ, in order to give vent to the pus that had accumulated there. This was followed by some inflammatory action, giving rise to an adhesive process which is still going on, and to-day I find that the probe passes about an inch into the bursal cavity, showing that the sac is about one-quarter or one-third closed. It may possibly take a long time for complete adhesion to take place between the walls of the sac, and should this fail to occur it may be necessary to apply pure carbolic acid or some other irritant to the parts. In the mean while the suppuration is a very benign one, and all that we have to do, for the present at least, is to allow free drainage for the pus, and to inject the sac several times a day with a weak solution of carbolic acid. The case is certainly doing quite as well as we can expect.

PARALYSIS AND CHOREA RESULTING FROM EMBOLISM.

This girl, aged 14, has also been before us previously. Somewhat more than two months ago her mother brought her here, with the following history. Three weeks before that time she had noticed that she began to "act queer," as she expressed it. There were irregular movements of the head and left arm, and presently she found that she could not hold her fork in eating. Previously she had always been healthy, and the family history was also good. She had begun to menstruate about eight months before, but the flow was usually rather scanty. She suffered considerably from headache in the right temporal and parietal regions, and her face was drawn somewhat to one side. On examination, it was found that the uvula seemed to point towards the right, while the tongue, when extended, was directed rather to the left. Her intellect was good. She had no palpitation of the heart, and had never had rheumatism,

as far as could be ascertained. Her bowels were constipated, and she had lost a considerable amount of flesh. The treatment ordered consisted in the application of ice to the right side of the head, and the administration of cathartics, ergot, and digitalis. Three weeks later, Fowler's solution was substituted for the ergot.

You perceive that we meet in this case with two sets of symptoms, one convulsive in character, and the other paralytic; in other words, that it is a case partly of chorea minor and partly of paralysis. It has not been stated in the history, but it is a fact that the lower extremity upon the right side was affected, as well as the upper. In regard to the latter, it was found that the grasp of the right hand was much more feeble than that of the left. It would not do to assume here that there are two distinct forms of disease present. Both the sets of symptoms are undoubtedly due to the same cause, viz., valvular disease of the heart, giving rise to cerebral embolism, since an examination of the heart reveals the existence of a mitral systolic murmur. The larger emboli in the vessels of the brain no doubt occasioned the partial hemiplegia, and the smaller ones the choreic symptoms. The medication which has been mentioned was not, of course, resorted to with any idea of getting rid of the embolism, as it is beyond our power to affect that. The digitalis was given for the purpose of strengthening and regulating the action of the heart, and the ergot with the idea of preventing encephalitis resulting, or, if it had already commenced, of diminishing its severity.

To-day we find that there has been considerable improvement as regards the paralysis, but that the chorea remains much the same. The girl seems to have recovered almost perfect use of the right lower extremity, but the arm is still considerably affected. She has much less power in it than in the left one, and she complains of some numbness of the fingers. In such cases it is the ordinary rule for the trouble to clear up in the lower limb first. The tongue seems now to be protruded in the median line, but the uvula is still drawn slightly to one side. She does not stammer at all in her speech. The paralysis being upon the right side of the body all the way up, we should naturally expect the lesion producing it to be situated in the right hemisphere of the brain, somewhere anterior to the pons varolii.

If there is no increase of temperature above the normal at the present time, we may infer that there is probably no encephalitis going on; and here I would again impress upon you the great importance of always taking the temperature in the rectum (or the mouth), and not in the axilla, as is still too commonly the practice among medical men. In many cases of cerebral and spinal inflammation the thermometer placed in the axilla will show little or no increase of temperature, even when the case has progressed almost to a fatal issue; and in such cases a rise of a single degree, or perhaps of half a degree, is sometimes of the greatest significance. My assistant informs me that the rectal temperature in this case is now just a hundred, so that we need no longer be in apprehension of encephalitis. The treatment that I now propose will be from twenty to thirty grains of the iodide of sodium and two or three drachms of the infusion of digitalis during the twenty-four hours. I prefer the iodide of sodium to iodide of potassium, on account of its being rather more grateful to the stomach; and the digitalis is, of course, to regulate the heart's action. In addition, the girl should have bromide of potassium at night if she does not sleep well. Under this simple treatment I think we may look for a good recovery. I find that I have neglected to mention that it may now perhaps be well to commence the use of electricity upon the affected arm, and for this purpose I would recommend that the faradaic current should be applied to the individual muscles.

CHRONIC PHARYNGITIS.—The following treatment of Pippingsköld for chronic pharyngitis will at least commend itself for its simplicity. In case of pharyngeal catarrh, with extension to the mucous membrane of the general air-passage, he recommends methodical and thorough gargling, morning and evening, with water at a temperature of 15° to 20° C. This to be continued for months, or, under certain circumstances, for a whole year; at least to be recommenced as soon as the symptoms of the catarrh shall begin again to annoy the patient. Two glasses full of water at the above temperature—used at each gargling—relieve hyperæmia, and restore tone to the relaxed vessels of the soft palate. Ice-cold water, in less quantity, will reduce the temperature of the parts more quickly, but causes a powerful reaction, with increased hyperæmia, and can easily therefore do more harm than good. The writer recommends this remedy likewise in granular pharyngitis. —*N. Y. Med. Journal*, July, 1878.

TRANSLATIONS.

LOCAL ACTION OF VARIOUS MEDICINAL SUBSTANCES UPON THE TEETH.—Maurel (*Bull. Gén. de Thérap.*, June 30, 1878) has made a number of experiments to ascertain exactly what effect is exerted upon healthy and partially-decayed human teeth by various solutions. His results are as follows. 1. Sulphate of copper gives a dull yellow color to the healthy enamel; it appears to attack the cementum, and gives it, as well as the dentine, a persistent green color, which appears through the enamel. 2. Chlorate of potassium is without action upon the teeth. 3. Nitrate of silver does not destroy the structure of the teeth, but it gives them a black metallic lustre. 4. Crystallized alum exercises a very destructive action upon the enamel. Its action on the dentine and the cementum is not constant, and when exercised is only feeble, the cementum being less altered than the dentine. 5. Alcohol is without action on the enamel of the teeth. 6. Tincture of benzoin, while exercising no effect upon the structure of the dental tissues, does in time color the cementum and dentine brown. 7. Tincture of mint is without action on the hard tissues of the teeth. 8. Tincture of cinchona, while it has no effect on the structure of the teeth, colors the roots brown. 9. Cologne has no effect on the teeth. 10. Tobacco in solution has no effect upon the structure of the teeth, which, however, it colors a more or less dark brown. The enamel is least affected by it. X.

ALTERATION IN THE GREAT SYMPATHETIC CONNECTED WITH ECZEMA.—Dr. Marcacci (*Le Mouvement Méd.*, 1878, p. 193; from *L'Imparziale*) gives the case of a man of seventy, who, having been exposed for some hours to cold and rain, began to suffer weight and pain in the head. A little later the scalp became covered with a furfuraceous desquamation, which soon extended to the face, the axillæ, the chest, and finally involved the entire body. There were no signs of alteration in any of the viscera, no indication of constitutional disease. The diagnosis was therefore made of diffuse idiopathic eczema.

A little more than two months later the patient died of pneumonia of the right side. Post-mortem examination, which was made at the laboratory of pathological anatomy in Florence, showed hyperæmia of the superior cervical and cœliac ganglia, noticeable even by the naked eye. Microscopic sections showed still more markedly the congested condition of these ganglia. A great number of nuclei could be seen; the nervous cellules were compressed by the lateral pressure of the nuclear masses, and were cloudy. Finally a granular pigment occupied the intercellular spaces in great abundance. Up to the present time, says the *Archivo Italiano per le Malattie nervosi*, alterations of the nervous system in connection with diseases of the skin have always been found to be seated in the encephalo-spinal centres, or on the peripheral nerves proceeding from them. Dr. Marcacci's case may therefore be regarded as entirely novel, since it shows lesions of the sympathetic similar in every respect to those found heretofore in analogous cases in the spinal ganglia. X.

AMAUROSIS FOLLOWING DENTAL DISEASE.—Sirletti (*Le Mouvement Méd.*, 1878, p. 193; from *Arch. Clin. Ital. dei Med. Condotti*) reports the case of an old man attacked suddenly with hemeralopia, without any previous enfeeblement of vision. Knowing that dental troubles sometimes cause endo-ocular hyperæmia and amaurosis through the ophthalmic ganglion, S. inquired which of the patient's teeth were decayed. He found that for some time he had suffered severe pain in the upper canines, of which the crown was gone. On examination, a fistulous cavity, with intra- and extra-alveolar periostitis, was found in the root of each canine. These teeth having been extracted, the patient began to be able to distinguish light from darkness almost immediately, and by the end of six days his sight was completely restored. X.

APHORISMS ON CANCER.—F. Esmarch (*Chl. f. Chir.*, No. 25, 1878; from *Arch. f. Klin. Chir.*) relates a series of four cases of atheroma of the scalp which suddenly took a malignant course. He also asserts that psoriasis linguæ often goes on to cancerous ulceration, and in addition brings forward a number of cases in which scars, and particularly the scars of lupus, developed carcinoma. He concludes by mentioning cases in which cancerous growths were developed in old leg-ulcers. Esmarch thinks a certain constitutional taint or dyscrasia is present in cases of this kind. He has often observed scrofula in the children of syphilitic parents, and has also

noticed sarcoma in many members of families in which a syphilitic taint was existent. In other families, where certain growths seemed hereditary, no taint of this kind could be ascertained. With regard to treatment, E. naturally speaks in favor of operation at the earliest possible moment. In desperate cases, where an operation cannot be performed, E. has had good results from the use of arsenic in large doses. As an escharotic, combined with morphia, it has also done him good service. He usually keeps his patients upon Beneke's food (the largest possible proportion of albumen and phosphate of calcium). Electrolysis Esmarch has only found successful in one case. On the other hand, he has seen a number of sarcoma-like tumors, and apparently carcinomatous tumors, cured by the administration of iodide of potassium. x.

Pemphigus Vaginæ. — Kleinwachter (*Cbl. f. Chir.*, 1878, p. 392; from *Präger Med. Wochens.*) gives the following case. The patient had suffered from pemphigus, especially of the leg, for three years, in spite of every kind of treatment. The mucous membrane of the vagina was laid bare of its epithelium in numerous small patches, and bled easily upon contact; on many of these patches a thin, sometimes rumpled skin could be observed. The intact portions of the mucous membrane were reddened, and poured out a catarrhal secretion. The upper third of the vagina was particularly affected. About the vulva six or eight distinct bullæ could be seen. Astringent injections were ordered, but the patient, who suffered no discomfort from the eruption, disappeared. x.

Syphilis of the Epiglottis.—According to Klemm (*Cbl. f. Chir.*, 1878, p. 386; from *Arch. der Heilk.*), this form of syphilitic disease is not so rare as is usually supposed. But the symptoms, especially at first, are so slight as easily to escape notice. In the earlier stage the epiglottis is reddened, swollen, and beset around the edge with small ulcers, the borders of which are sharply defined, and whose surface is covered with a dirty coating. Already, even in this stage, the affection resists treatment. Of the severer forms two are to be distinguished: first, the *hypertrophic* or chronic inflammatory form, in which the epiglottis, or a part of it, is changed to a thick, firm lump, which may be confounded with acute non-syphilitic processes; second, the *ulcerative* form. This latter is more frequent. Here we find deep ulcers on the epiglottis, with thick, protuberant borders. Beginning usually at the edge, they consume a portion irregularly, and may eat away the whole epiglottis. The process may last for years, may involve the glottis, and lead to stenosis of the latter. At this point, however, infiltration and swelling are often found without ulceration, which is important in the diagnosis between this form of disease and tuberculosis. In the course of time, in syphilitic cases, certain characteristic crumplings and contractions form in the epiglottis. Pain on swallowing is among the most noteworthy symptoms. Painfulness to the touch, however, is not noticed. In this respect the syphilitic disease differs from the tuberculous affection, where the epiglottis is very sensitive to the touch. Syphilis of the epiglottis appears only after some years from the initial lesion. It seems to occur more frequently among women than among men. It is remarkable that in these cases, even where the entire epiglottis has been lost, the patient can swallow without difficulty, and experiences no particular irritability of the glottis. Carcinoma and tuberculosis are alone to be distinguished from syphilis of the epiglottis, and here outside manifestations, history, etc., come into play, as local differences often cannot be made out. Treatment is both local and general. The disease is apt to be chronic. Klemm gives notes of seven cases. x.

Iodoform.—Cuffer (*Cbl. f. Chirurgie*, 1878, p. 421; from *La France Méd.*) speaks highly of the anæsthetic effect of iodoform in fissure of the anus, hemorrhoids, pharyngeal troubles, ulcerative cancer, particularly of the face, mouth, mamma, and cervix uteri. This is aside from its alterative action upon ulcers. In disease of the pharynx and uterus, Cuffer employs the iodoform, in a ten per cent. ethereal solution, by means of a Richardson's spray-producer. x.

Necrosis and Caries of the Os Calcis.—Schinzinger (*Cbl. f. Chirurgie*, 1878, p. 421; from *Arch. f. Klin. Chir.*) gives notes of four cases of central necrosis of the os calcis, in which a cure was obtained by enlarging the fistula and removing the necrosed bone. In addition, he gives a case where fracture of the os calcis by direct violence was followed by gangrene of the skin and necrosis of a small portion of

bone. Two other cases show that even where there is extensive caries of the tarsus and metatarsus the posterior process of the os calcis may remain sound, thus permitting Pirogoff's operation. S. has never seen a good result from Syme's operation. In Pirogoff's operation he has never divided the tendo Achillis. According to S., then, the diagnosis of ostitis of the os calcis having been made, and the exploratory incision in cases of centrally-situated disease having been practised, he has found in several cases the application of a red-hot iron advantageous and resulting in cure. In conclusion, Schinzinger gives the indications for the various methods of operating in the treatment of ostitis, caries, and necrosis of the os calcis. x.

Adenoid Growths in the Posterior Naso-Pharyngeal Space.—Justi, in one of Volkmann's "*Sammlung Klinischer Vorträge*" (No. 125, abst. in *Cbl. f. Med.*, 1878, p. 412), says that the so-called "tonsilla pharyngea," a follicular layer similar in structure to the tonsils, and extending from the roof of the pharynx to the lateral and the posterior walls and in part to the posterior nares, is a frequent seat of hyperplastic disease. This may not only cause serious symptoms in itself, but may give rise to still more important disorders by the involvement of the neighboring and circumscribing mucous membranes of the nose and ear. The diagnosis of these troubles may be made by the exploring finger reaching behind the velum, aided sometimes by the pharyngoscope, or by Zaufal's naso-pharyngeal speculum. Therapeutically, the best remedy is shaving or scraping away the growths by the sharp spoon. For this purpose Justi recommends either a spoon made of pliable steel, or one fitted with a ring by which it can be fixed at the end of the index finger so that the operation can be under the more exact control of the touch. x.

Propylamine in Chorea Minor.—H. Pürckhauer (*Cbl. f. Med.*, 1878, p. 384; from *Aerztl. Intelligenzblatt*, 1878, No. 1) gives six cases of chorea in young persons where propylamine in daily doses of 1.0 to 1.25 grammes (℞ Propylamine, 1.0; aq. dest., 120.0; sp. menth. pip., 25.0. Sig., tablespoonful every hour) acted promptly and effectually. The disease was overcome within three to four days, even where it had subsisted for weeks. Whether beneficial results in the use of this agent are to be expected chiefly in cases following rheumatism cannot yet be said; further experiments alone will show. x.

Operation for the Cure of Irreducible Luxation of the Shoulder.—H. Burckhardt, in a case of dislocation of seven months' standing, made an incision down to the joint, cut the various adhesions, and reduced the luxation. Three months later, the hand could be placed on the opposite shoulder, and behind on the crest of the left ilium. The patient eats and arranges her hair with this hand. Only rotation outwards is minimal.—*Cbl. f. Chir.*, 1878, p. 376. x.

Experimental Researches on the Influence of Arsenic upon the Organism.—C. Gies (*Cbl. f. Med.*, 1878, p. 378; from *Archiv f. Exp. Pathol.*) fed rabbits, chickens, and pigs for four months with gradually increasing doses of arsenious acid. The animals generally grew heavier and fatter; growth in the epiphyses and periosteum of the bones was quite marked, compact substance being observed in those parts which are usually spongy. In this respect the action of the arsenic was similar to that observed after the ingestion of phosphorus. One very curious circumstance observed by Gies was that animals kept in the same cage with those used for these experiments also became fat and showed consolidation of the bones. G. attributes this to the influence of the arsenic eliminated by the skin and lungs of the animals used for experiment. He also observed that animals kept in cages the floor of which was impregnated with arsenic showed the same symptoms. The above appearances were noted in young and growing animals. In adults, the cortical portion of the diaphyses was decidedly thickened, and at the same time fatty deposits took place in heart, liver, kidneys, and spleen. When the dose of arsenic was increased beyond a certain point, these changes in the osseous system were less prominent, the features of chronic arsenical poisoning being observed, such as inflammatory symptoms in the stomach, intense hyperæmia of the intestinal mucous membrane, as well as extreme fatty degeneration of the liver, spleen, kidneys, and heart. The young of pregnant rabbits thus treated came into the world dead, and showed the initial symptoms of the disturbances above noted, with decided hypertrophy of the thymus gland. x.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, AUGUST 31, 1878.

EDITORIAL.

MARVELS OF MICROSCOPY.

SCIENCE certainly is achieving wonders, and in few provinces greater than in the medico-legal study of the blood. At the rate the experts are travelling, we expect soon that a man will be considered an ignoramus who cannot tell from a blood-stain the race of the man it came from, the ailments he had suffered, the street-corner he was born on, the date of his christening, and the names of his forefathers and foremothers, back even unto the fourth generation. It is not long since the best microscopists swore that they could not tell the blood of man from that of other mammals; but our fellow-townsman with his one-fiftieth put them to shame, and the far Southwest now overshadows him and all of us. Prof. Joseph Jones was given in a recent murder case pieces of blood-stained wood from the scene of the murder, also pieces of the clothing from the alleged murderer, and not only detected that the stains were due to the presence of human blood, but also that the blood in each case was probably from the same individual, because from one who was suffering from intermittent fever. Dr. Jones also testified as to the probability of his being able to distinguish the blood of a negro from that of a white man, but modestly acknowledged, "I cannot, however, speak positively with reference to the blood of the different races of mankind."

We are very much interested also in reading that Dr. Jones has confirmed a very important and curious physical fact in regard to the blood of dogs, which was first discovered, we believe, by Prof. Taylor. Hereafter there should be no difficulty in recognizing the vital fluid of man's faithful companion, for certainly the blood-discs of no other mammals have an *average* diameter much *larger* than their *maximum* diameter. According to Prof. Taylor, "the average diameter [of the blood-corpuscles] is in the dog $\frac{1}{3540}$ (maximum $\frac{1}{4000}$, minimum $\frac{1}{8000}$)," (Principles and Practice of Medical Jurisprudence, 1st ed., p. 457, 2d ed., vol. i. p. 547); whilst we read in Dr. Jones's memoir, "the average diameter of the blood-corpuscles of the dog is about $\frac{1}{3540}$ of an inch," and a little farther on, "the blood-corpuscles of man and animals vary in their diameters within certain limits: thus, those of man may vary from $\frac{1}{2000}$ to $\frac{1}{4000}$; of the dog, from $\frac{1}{4000}$ to $\frac{1}{8000}$."

We congratulate Dr. Jones on the importance of his discoveries, but confess it all seems hardly fair to the accused. It is getting too much like shooting woodcock sitting. In spite of lawyers and judges and of all the other aids provided by the law, the murderer will soon stand no chance whatever. (For bill of particulars see the *New Orleans Medical and Surgical Journal* for August.)

ARMY MEDICAL SERVICE.

WHERE the pressure of competition is as great as it is at present in the ordinary ranks of the profession, the squeezing out into such desirable byways as the medical service of the United States would be expected to keep the crowding there almost even with that of the main avenue. The fact that there are eleven vacancies in the corps probably has its explanation in the old saying "that there is always plenty of room in the upper stories," the reputation of the army examination deterring the majority of would-be applicants, and its actual severities breaking down others. Whatever the cause may be, the fact of the vacancies

exists, and to fill them a board of army officers will be in session in New York during October and November. When these positions are filled, it will probably be a long time before another board is convened.

All candidates for appointment in the medical corps must apply to the Hon. Secretary of War for an invitation to appear before the Medical Examining Board. The application must be in the handwriting of the candidate, stating age and birthplace, and be accompanied by testimonials from professors of the college in which he graduated, or from other physicians in good repute. Candidates must be between twenty-one and twenty-eight years of age, and graduates of a medical college, having a thorough and complete course of medical education,—evidence of which must be submitted to the Board before examination.

SOME of our readers may at times, in the Catskill or other mountains, have listened to the reverberations of the echoes, as they took up a sudden loud sound and passed it from peak to peak in almost endless cadence. One of the pleasures of medical literature is, in tourist-like manner, to start an apt quotation or saying, and watch it pass from journal to journal, reaching, it may be, across the Atlantic and reverberating from continent to continent. Some of our readers may remember that some months since we quoted from Skinner's "Diseases of Women" concerning homœopathy as a soul-medicine. With grim pleasure we watched journal after journal with innocent joy quote this apt definition of homœopathy as an original discovery. We had thought that finally the echoes had died away; but no,—now they come from plague-threatened Louisville, and the editor of the *Clinic*, with commendable honesty, tells whence he draws his inspiration,—from the *British Medical Journal.*

THE Coffee-House Tavern Association which was inaugurated in London a little over a year since by a meeting held at the house of Mr. Ernest Hart, editor of the *British Medical Journal*, appears to be having most hopeful success. It has already twenty houses situated in different portions of London, which are achieving great good and at the same time earning a fair dividend upon the capital invested. Temperance taverns are already established upon a permanent paying basis at Liverpool, and the movement is spreading to the smaller English towns, as shown by the formation of associations and the opening of coffee-houses in Leamington, Bristol, etc.

CORRESPONDENCE.

BOSTON LETTER.

EDITOR PHILADELPHIA MEDICAL TIMES:

A LETTER on medical topics from Boston is not such a remarkably common occurrence. Why, I am utterly unable to say; for there are matters here of more interest than you have dreamed of in your Philadelphia philosophy,—Horatio, I might add.

The Boston medical men seem to possess a large share of that strong, sturdy conservatism which leads one to do things effectually enough, but quietly. They say little, they write less; but for good, square thinking, for downright hard work, allow me to recommend the Boston physician. In the matter of medical papers from the leading men, Boston is but too little known to the outside world. Opportunities for clinical study and laboratory work are large and unexceptionable. The men who control these opportunities are, many of them, men of profound medical learning, men of great acquisition, great in insight and diagnostic acumen; but they write too seldom, and, excepting in their private journals, make but little use of what is really a wealth of material. True, they are enthusiastically ready and eager to give their students the benefit of their clinical and pathological treasures. This is all very well. But it will be admitted that students, even of that high grade which sits under the teachings of the Harvard school, are hardly mature enough either to make immediate use of what is given them, or, at present, even appreciate its actual value. Such treasure should, much of it, be given to the medical mind of riper growth, not only in Boston, in Massachusetts, in New England, but to the medical *world.* This is

done here to such a limited extent that it fairly makes one sad. If I am the first publicly to protest against this rigid conservatism, this habit of secretiveness, this talent for silence, I trust I may not be the last. The truth is, we have great ability in Boston. We have men here the influence of whose opinions ought to be national. With some exceptions they are hardly known out of the State. If they were in New York or Philadelphia the effect of the medical atmosphere of those centres would incite them also to give to the world every new and helpful idea, striking case, or ingenious instrument which came into their minds or hands. The failure to do this in Boston is a wrong, a medical sin, which should have the daylight thrown upon it. The anxiety to rush into print, which, alas! is but too common among young physicians the world over, is of course reprehensible at their age, although, when it doesn't mean advertising, it often comes from the possession of the right kind of stuff. It is a fault to write an old story because one happens to have the material which others have used a thousand times. No one wishes to lumber up his shelves with books or pamphlets which, so far as new information goes, are mere blank paper. But every medical man who is less favored looks to those who stand in high places, who have large opportunity, who are earnest students, ripe and profound in thought and knowledge, for guidance, for conclusions and information concerning what to them—unless opened for them by the wise, the gifted, the possessor of the hidden secret—must necessarily be a sealed book. This is why I blame the medical men here, who see, who know, who understand, but who, except to their own circle, do not speak.

With great opportunity comes great responsibility. This conservatism (to use a word essentially kind) is a wrong not only to medicine at large, but its effect upon young men is dangerous. The leading medical minds in Boston have a strong local influence. The danger is lest the rising men follow in the footsteps of those whose great ability has won their respect. But I am glad to say that among these younger men there seems to be a desire to change this hermit-like quiescence for a broader and freer tone of thought. There are several of them, notably among the specialists, who are doing good work with the pen, and who are constantly striving to add what they can to the general sum of medical knowledge. But it is to be regretted that they find so few practical examples among the older men. Let me add that I am sometimes amazed at the apparent apathy of these maturer minds. Can it be possible that they wish, after they have passed away, to live only in legend? Can it be that they are unmindful of the sad truth that unless a man leaves behind him a monument erected by *his own hands* he is soon forgotten,—that the place which has known him will know him no more forever? Perhaps they do not care to be remembered. Then, so let it be.

On the other hand, society work in Boston is most excellent. The meetings are attended by goodly numbers, and here the elders are as interested and as constant in their attendance as the younger men. This gives strong character to the discussions, especially because papers and reports of cases are not by any means confined to the younger portion of the members. These facts are worthy of imitation in other cities. Touching this matter, however, I shall have more to say in future letters.

In Boston there are two large hospitals,—the Massachusetts General and the City Hospital,—each of which is open to students of the Harvard school, and capital teaching is done in both. I mean hereafter to go into detail concerning these as well as several lesser institutions and retreats. In the present letter I will not attempt to enlarge upon hospitals or hospital work, but will confine myself to the mention of some interesting features in connection with operation and teaching at the Massachusetts General Hospital and the Harvard school. First, I wish to bring to your notice an operating-chair which for many years has been in constant use in the amphitheatre of this hospital. By the courtesy of Prof. Henry J. Bigelow, whose remarkable ingenuity is not so well known out of Boston as it should be, I have learned the history of this chair. It is Dr. Bigelow's invention, is known here as the "Bigelow operating-chair," and bears a silver plate to that effect with date of manufacture,—1854. Not long after the introduction of ether, in 1846, which, as you probably know, was first administered at this hospital by Dr. John C. Warren, grandfather of the present Dr. J. Collins Warren, the necessity arose of having a solid and steady chair which would meet the needs of operators and give security to the patient. A serious difficulty, too, was the syncope which sometimes occurred during etherization, and which called for some means of quickly changing the position of the patient from upright to horizontal, or even beyond this, so that the head might be lower than the heels. The result was Dr. Bigelow's chair. It is a solid, heavy, powerfully-built affair, yet easily moved and handsome in appearance. This particular chair was so thoroughly made, and so firmly braced and bolted, that, although it has been in almost daily use for nearly twenty-five years, it is as good as new. It is composed of three parts,—the back, the seat, and the leg-rest,—which move upon each other, are connected by heavy hinges and supported by a firm frame of mahogany, only the two front legs being provided with castors; so that, while it is immovable during an operation, it may be moved with ease simply by throwing its weight upon the two castors.

The back and leg-rest can be placed at any angle with the seat. The patient, already having been etherized in the "ether-room," —about which more in another letter,—is placed in the chair, a broad woven strap attached by one end to the chair is brought across the lap of the patient and fastened on the opposite side by catching one of the holes in the leathern end of the strap over a round-headed brass bolt. A second strap is passed across the legs near the knees; the leg-rest is lifted and kept in place by a ratchet arrangement. The arms are confined either by thrusting them under the upper strap, or, if the patient be violent, by putting on leathern bracelets and buckling them to the body-strap. Thus secured, the patient is absolutely fettered. If his legs work loose and he begin to kick, you lift the leg-rest a few notches, and then, no matter how much he may struggle in the wildness of ether intoxication, he cannot move. Operations can therefore be done with much less than the usual assistance. At the top of the back of the chair is a head-rest which is moved up and down by a crank. The patient's head can thus be placed in any desired position. Now, if the surgeon wish to give the patient's trunk another angle, he has only to give a few quick turns to a crank placed on the right hand of the seat, and the three parts—back, seat, and leg-rest—are moved in unison, for the crank cants up the anterior portion of the seat; this lifts the leg-rest and lowers the back. By a contrary movement of the crank the reverse occurs, and the patient is more upright. Suppose now he faints: you have then only to pull up a long bolt placed at the back, and the lower end of which, as the back moves up or down, travels over a toothed quadrant below and on the left of the seat, and the back falls at once to the horizontal; the bolt on being released and forced by a spring snaps its lower end between the teeth of the quadrant and holds the back firmly. Suppose you wish to make the head still lower: give the seat-crank a turn or two and it is done. Everything moves perfectly. A child could manage the simple and ingenious machinery, and the chair is such a convenience —indeed, is such a necessity in surgical work in hospitals—that it certainly would be in general use but for the fact that notwithstanding its age it has never before been described in print. Conservatism again! Dr. Bigelow should be proud of this chair, and I believe he is. He probably knows why he has allowed twenty-five years to pass without having it made known in other cities. There are but three duplicates of the chair in existence. One is at the Boston City Hospital; a second is owned by Dr. Carleton, of Connecticut, and was constructed from drawings made by Mrs. Carleton, who accidentally saw the original; the third copy was recently presented to his hospital—the New York Hospital—by Dr. Sands, who ordered a fac-simile after seeing the old chair here.

Apropos is an interesting anecdote. When the indefatigable Dom Pedro was in Boston he visited the Massachusetts General Hospital, and was much struck by this ingenious chair. Months afterwards he was dining with the Empress of Germany, who feels a lively interest in all hospital improvements. She probably asked Dom Pedro what he had seen that would be of use to Germany; at any rate he described to her the "Bigelow operating-chair." Before long Dr. Bigelow received a communication from some member of the Empress's household, asking, on her behalf, drawings and descriptions of his chair. He sent photographs which showed the chair in various positions: so that in all probability we may conclude there is by this time a fourth duplicate of a convenience which I trust you will urge upon the notice of the hospitals of Philadelphia. In 1854 the chair cost two hundred and fifty dollars. It now costs about double that sum.

My letter is already lengthy. I will then leave the description of the amphitheatre in which the chair stands until another occasion, when it may be mentioned in connection with the hospital adjoining.

I cannot do better than give you details of another and more recent invention of Dr. Bigelow's, and which, while not less convenient and ingenious than the chair, is perhaps a greater necessity. I refer to what is probably a perfect post-mortem table. The table which preceded this was considered a model, but by no sort of ingenuity heretofore brought to bear had the foul smells been overcome or driven away. To this end Dr. Bigelow set himself at work, and the result was a table which is so simple and so perfect that, like all simple things, it leads one at first view to say, "Anybody could have invented that table." And so anybody could,—just as the Spanish grandees knew how to set up the egg of Columbus,—after they had been told how. This table cost Dr. Bigelow a great deal of thought. His principles in inventing are, "(1) Get a clear idea of what you want; (2) put it into as many different shapes as you can; (3) reduce these to one, and let that one be utterly simple." The main object being the disposal of smells and foul gases, he determined in some way to set in action a series of draughts; and knowing that when a cadaver is opened odors and gases arise principally from the cavities of the trunk, he saw that the draught must not only act directly upon this region of the body, but must act *downwards*. The outcome is a table of solid iron, concave in shape, or rather converging and becoming gradually depressed towards the centre. It rests upon what can fairly be called a hopper, an open box precisely like a miller's hopper, also of iron and supported by a cylinder which revolves near the floor in

the head of a larger cylinder, into which the former telescopes far enough to rest upon a shoulder which supports it, and with it forms a joint. Table and hopper are one piece. The former is covered by a movable apron of zinc or oxidized copper which fits it closely. In the centre is an opening which corresponds to the exact position occupied by the trunk of a subject; it measures twenty-one by twenty-eight inches, and is covered by a snugly-fitting steel grating also concave in shape. The interior of the hopper and cylinder, which runs down into the cellar below, is lined with porcelain. Directly beneath the centre of the table, in the cellar below, is the trapped opening of a large drain, which receives all fluids and such small "gurry" as can escape through the meshes of the grating, the hopper and cylinder being even more capacious than the opening in the table. But what about odors and gases? The answer involves the description of the most ingenious feature of the whole. Some feet down the cylinder, and about half-way to the bottom, is a large opening which leads into a lateral trunk or shaft placed immediately below the floor of the post-mortem room. This shaft runs horizontally, and terminates twelve or fifteen feet away in a special chimney. To see this portion of the arrangement, you have to go down into the cellar. Ascending again, you enter a small room adjoining the autopsy apartment, and here observe a window let into the chimney into which the shaft enters, for the chimney passes up directly through this room. Opening the window, you find a series of ten gas-burners. You light them all and wait a few moments for the warming of the air in the chimney; then hold a lighted match or bit of burning paper over the opening in the necropsy table, and you are amazed to see with what force the flame is drawn *down* the hopper. And so it is with all gases and odors during the examination of a body, the air of the room remaining perfectly sweet and pure. This is Dr. Bigelow's simple and effectual contrivance. Could anything be more sensible or more perfect? A similar arrangement on a smaller scale is applied in an upright glass case with sliding sash, which encloses the sink and is always kept shut. The pathologist is making an examination, and wishes to cleanse and examine or temporarily lay aside a certain organ. He opens the case in which gas-burners are lighted, and which communicates with another flue. There is hot and cold water in this sink; the organ is washed or left there, all odors being carried away. It need not be mentioned that the table has every convenience in shape of contrivances for supplying an abundance of water, the chief being a small hose. The floor is asphalt, the wash-boards stone or marble or glass, I forget which. At any rate, the whole apartment is frequently deluged with water, which quickly runs off through scuppers and gratings, all of which of course communicate with the main drain. There is a glass case near the table, in which all instruments are kept; there is a large ice-chest for preservation of specimens; there is a comfortable room devoted to the preparation of specimens and the microscopic work of the pathologist; and many other conveniences which would make the whole place dear to the heart of a specialist. In conclusion, this autopsy-room is an entire building, a neat brick structure, built for the professor of Pathology, Dr. R. H. Fitz, and his classes. The room is of moderate size, finished in chestnut; the seats are arranged in form of amphitheatre; light is supplied in great abundance; and, since Dr. Bigelow's ingenuity has disposed of all smells, the students are as comfortable here as they are in any other room. Dr. Fitz has won a reputation as teacher and pathologist. His interesting method of teaching must be reserved for another letter. H. O.

Boston, August 15, 1878.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Thursday Evening, May 9, 1878.

The President, Dr. H. Lenox Hodge, in the chair.

Biceps muscle filled with trichinæ. Presented by Dr. J. G. Richardson.

I REGRET that the history of this case is so incomplete, although full enough to illustrate an important point in regard to trichiniasis, namely, the frequency with which it escapes detection.

The body from which this biceps muscle was removed was a subject upon one of the tables in the anatomical rooms of the University of Pennsylvania. In the course of their dissection, one of the class of students engaged upon it observed a peculiar dotted appearance in the pectoral muscles, and, calling the attention of Prof. Rothrock and Dr. B. F. Lautenbach to this condition, they at once discovered the parasite. No account of the case could be collected, but the man, apparently a German of some 40 or 50 years of age, well nourished, and the victim of an accident, had been subjected to a post-mortem examination, in which it is fair to presume that the trichinæ had not been detected. This shows that an autopsy does not always suffice to demonstrate the existence of trichiniasis, and suggests that a more thorough examination, including a microscopical one, of the muscles, especially of the pectoralis major, should *always* be made.

The parasites are here encysted in calcified cysts, and as this does not generally occur in less than two years, we may conclude that

the onset of the malady antedated that period, and may of course have preceded it by fifteen or twenty years.

This example of trichiniasis is, I believe, only the fifth that has been observed in Philadelphia, and it is a curious coincidence that in lecturing upon the prophylaxis of this malady, in my course on Hygiene, last spring, I urged our students almost exactly one year since to examine most carefully all the subjects upon the dissecting-room tables, as I thought it likely that cases of trichina disease not infrequently occurred and escaped detection, simply through want of scrutinizing observation. It also seems probable, as I then suggested, that the presence of these parasites in their encysted form may be a more or less direct cause of some chronic disturbance of function or nutrition as yet unrecognized.

Specimens from a case in which death had resulted from meningeal hemorrhage. Presented by Dr. WM. PEPPER.

I. W. P., æt. 76 years. Very strong constitution. Accustomed to drink large quantities of whisky and water daily. Began to fail in memory and mental power in 1876. Movements grew heavier and less powerful. Giddiness became marked in 1877, and continued with marked fluctuation till death. Hard of hearing, but no Ménière's disease. Occasional examination of urine at various times, up to within a few days of death, showed no albumen. Pulse regular. Radials hard. Extreme arcus senilis. No cardiac murmur. Aortic 2d accentuated. In July, 1877, he began to have occasional sudden falls, with unconsciousness, but without convulsions. These falls occurred a dozen times at irregular times, and were apparently caused by extreme vertigo. He usually fell backwards, striking the back of the head. All the symptoms had been growing more aggravated, when on May 1, 1878, he fell with unusual force, causing contusion of the scalp over the postero-inferior part of the left parietal bone. He was stunned for some time; then became restless, tossing the arms about, talking excitedly, and trying to leave the bed. This excitement was marked for two days, when it gradually became replaced by dulness; breathing grew puffing, and the pulse began to be slower, falling to 56. For the next four days stupor slowly deepened, with occasional spells of excitement, progressively growing less marked. The breathing gradually assumed a tidal character, which on the fifth day after the fall had become so pronounced that intervals between groups of respirations were thirty seconds long, the respirations being hurried, in groups of about 15, beginning with a faint breath, rising to loud, noisy stertor, and falling again to gentle breath before ceasing entirely for one of the long intervals. The pulse continued to fall steadily in frequency, remaining regular in rhythm: it was successively 50, 40, 32, 26, 20, 16, and finally, during the fifth and sixth days after the fall, remained at 12 or 13. For twenty-four hours before death, which occurred on the seventh day, the respirations grew regular and more frequent,—32 in a minute,—while the pulse continued at 12 in a minute. Unconsciousness was profound. While tidal breathing lasted, the pulse-rate was very slightly influenced by the breathing: during the respiratory periods the pulse rose to the rate of about 13, and during the intervals fell to the rate of about 11. Urine was passed involuntarily, and was not albuminous. Power of swallowing was retained till thirty-six hours before death, which occurred from increasing pulmonary congestion and œdema.

Post-mortem.— Head.—Skull very dense; diploë completely indurated. Extensive meningeal hemorrhage over left hemisphere; the clot, which was dark and soft, was chiefly seated over the posterior lobe, and had gravitated to the base, where it pressed on the tentorium. Very little, if any, blood had actually entered the cerebellar fossæ. The blood had evidently escaped from one of the meningeal veins, which presented a perforation of its walls, partly filled by a clot. There was no hemorrhage into the ventricles, or into the substance of the brain. The arteries at the base were highly atheromatous.

Thorax.—Lungs healthy, but deeply congested. The heart was surrounded by a great quantity of fat. The muscular tissue was friable and pale. Calcareous nodules were found at the base of the mitral and aortic leaflets, but the valves were competent. The aorta presented only small patches of atheroma. The coronary arteries presented a most intense degree of calcareous degeneration, being converted into rigid and brittle tubes.

Abdomen.— Liver fatty and slightly cirrhotic, and also presented nutmeg congestion. Kidneys congested; cortex presented small cysts, and also a moderate degree of interstitial disease, with some contraction and granulation.

There was a remarkable amount of soft yellow fat over the omentum, and around the pelvic viscera.

Report of the Committee on Morbid Growths.—" A microscopic examination of the specimens presented by Dr. Pepper.

" The kidney is found to have the intertubular connective tissue very much increased in amount; the capsules of the Malpighian bodies much thickened, also the connective tissue wall of the blood-vessels. The cells within the uriniferous tubules are enlarged, and in an advanced stage of granular degeneration; many of the tubules are entirely devoid of cells. The pathological change is one of interstitial nephritis.

" The liver is found to be in a state of indurated hepatitis, shown by a very decided increase of the connective tissue, and the excessive granulation of the cells.

"The muscular tissue of the heart has in a great measure lost its transverse striation, and the fibres present the morbid appearance of fatty metamorphosis.

"The large arteries from the brain present numerous points of atheromatous change, which have undergone calcification. The capillaries of the substance of the brain are seen here and there in their course to have a granular deposit resembling a calcareous infiltration of their walls.

"May 23, 1878."

THURSDAY EVENING, MAY 23, 1878.

THE PRESIDENT, DR. H. LENOX HODGE, in the chair.

Syphilitic disease of the pleura and lung. Presented by Dr. W. H. WARDER.

THOMAS M., age 38 years, has always led an active life. Served in the army during the last war, and afterwards, one year in the army on the frontier. He came under my observation in January, 1873. At this time his general health was good. His weight was about two hundred pounds. He stated that in November, 1866, while on a visit to Rock Island, Illinois, he had an attack of pleuro-pneumonia, which was followed by empyema of the right side, which opened through the lungs, and large quantities of pus and blood were coughed up. So free was the expectoration at times as almost to strangle him. Two pints and a half by actual measurement would be thrown off in twenty-four hours. This expectoration continued through the winter and spring, getting somewhat better during the summer.

In the fall of 1867 his physician ordered him to Beaufort, South Carolina, to spend the winter. There he contracted intermittent fever in January, 1868, from which he did not entirely recover until July. His cough still continued, and did not disappear until the spring of 1869. His health from this time was good. He was married in the fall of 1869. About one year after, his wife miscarried at three months. The following year she miscarried at seven months. In January, 1873, I was called to attend her in confinement, and she was delivered of a still-born child, which had evidently been dead some days.

From the history of his wife's pregnancies, and she to all appearances being a healthy woman, I was led to suspect that the father had had syphilis. This, he acknowledged, occurred while he was serving in the army. Upon examination I found no involvement of the mucous membranes or bones. There were some eczematous eruptions upon the lower extremities, and also upon the arms. I placed him upon specific treatment, which was done more in reference to his wife's miscarrying than to any manifestations for want of treatment upon his part. While under this treatment his wife conceived and at full time was delivered of a living child weighing nine pounds. The child was healthy, and did well until two months old, when nodes and swellings showed themselves on the fingers and bones of the forearm. These disappeared under constitutional treatment. The child at the present time is well grown and healthy.

Mr. M.'s health was uninterruptedly good until February, 1877, when he had a very severe attack of bronchitis with congestion of the right lung. He entirely recovered from this attack, but very soon afterwards pustular eruptions made their appearance upon his feet and legs, some of these pustules assuming the form of abscesses discharging quite a quantity of pus, and about the ankles degenerating into characteristic ulcers. There was general derangement of the secretions, with slight fever in the afternoon and evening. Under the use of pil. hydrarg., quinine, and potassium iodide, his general health was restored, but the pustules did not entirely disappear, although they were very much better.

In May he moved to Bound Brook, New Jersey. He was not under my care until November 16. He stated that in the early part of August he had taken a very severe cold, with chill, followed by high fever, and was treated for remittent fever by his attending physician. From this time until I saw him, November 16, there had been a series of improvements and relapses. There had been cough with slight expectoration, fever in the afternoon, and night-sweats. When I saw him in November he was suffering from a severe paroxysmal cough, with a tough, glairy mucous expectoration, with hectic fever in the afternoon and evening, and profuse night-sweats, difficult breathing upon making any effort in walking or ascending stairs, etc.

Pulse in the morning, 110; afternoon, 120.

Temperature.—Morning, 99½°; afternoon, 101½°.

November 18, Dr. Wm. Pepper met me in consultation. A careful physical examination showed that the respiratory movement over the lower part of the right lung was restricted, while that of the left lung was exaggerated. The heart's impulse was displaced towards the left, the apex-beat being in the line of the nipple. Resonance was good everywhere except over an area, semicircular in shape, which extended on the lateral aspect of the chest, from the liver-dulness below up to the line of the nipple, sloping downwards both in front and behind. Over this area there was absolute dulness on percussion. Auscultation over this space gave only very feeble, scarcely audible bronchial breathing, without râles. There was also almost complete absence of vocal fremitus and of vocal resonance. There were a few crackling râles in the lung-tissue immediately adjoining this area of flatness. Elsewhere the respiratory murmur was normal.

The above physical signs, viewed in connection with the general symptoms,—hectic fever and night-sweats,—with the history of the case, led us to the opinion that there was empyema, and we decided to explore the part with an aspirator needle. On the following day the needle was introduced to the depth of two inches in the seventh intercostal space in the line of the anterior border of the axilla. It passed into a solid, unyielding tissue, and no fluid followed.

From the syphilitic history of the case, and finding there was no pus, and the fact that there had been empyema in this side, we were disposed to think it probable that the pleura had become the seat of irritation with plastic exudation, which had become organized and was pressing upon the lung, together with some syphilitic degeneration of that tissue. In the hope of securing the absorption of the deposit we determined to place our patient upon the use of potassium iodide and hydrarg. bi-chlor., quinine, and opium, and with good nourishment to wait and see if such a result would follow. Feeling certain that the disease was of syphilitic origin, the iodide was given freely, the quinine and opium three times a day, and one-sixtieth of a grain of atropia was given at bedtime to control night-sweats. Under this treatment the appetite improved, the hectic fever lessened, and the night-sweats almost disappeared. Daily exercise in the open air when the weather was good. This course was steadily pursued until December 27, with some slight improvement in general health; and now, finding that no absorption was taking place, but that the area of disease was extending, with no change in the physical signs, we determined to repeat the operation to see if any breaking down of the mass had taken place. This was entirely unsuccessful. Upon passing the needle into the mass it was found that the same condition remained as before. The area of dulness had increased, the breathing was more difficult upon exertion, the cough was more troublesome, and the displacement of the heart was much greater.

The iodide was increased, and the mineral acids with tonics were given to keep up the digestive organs. The chest was painted with tincture of iodine once a day. The cough was controlled by hypodermic injections of Batley's solution of opium at night. The patient was still able to walk about, and each day, when the weather permitted, would take some exercise in the open air.

During January there was but little change in the case. The area of flatness gradually increased in every direction. It extended up into the axilla; it involved the posterior border of the lung, and also advanced anteriorly.

The apex and the anterior border were the parts which remained free last, and over them a remarkable tympanitic resonance existed for some weeks, until it was finally replaced by flatness and the entire pulmonary area became non-resonant. It was to be noted that as successive portions of lung were invaded, the only physical signs developed were large crackling râles, and then complete dulness with absence of respiratory murmur followed. The displacement of the heart steadily increased until the apex-beat was at the anterior border of left axilla. There was at no time any valvular murmur. There were, however, a few dry clicking pericardial friction-sounds. The action of the heart was rapid but regular. As the case advanced (about February 1) there appeared enlargement of the lymphatic glands of the right axilla, and soon afterwards of the supra-clavicular glands. The enlargement ultimately became quite great. About March 1 difficulty of deglutition appeared and slowly increased, so that for two weeks before death he was only able to swallow small quantities of liquid. The breathing became more and more difficult, and somewhat stridulous, and the voice feeble. The cough became looser, and for several weeks there was considerable purulent expectoration. He had several attacks of diarrhœa, which made it necessary to stop the use of the iodide of potassium and mercury.

A third paracentesis was performed about February 25, at the earnest request of the patient and of his friends. There was no expectation of finding liquid, and in fact the needle, though introduced to the depth of two and one-half inches, failed to reach any. It was then determined to use frequent injections of liq. iodine comp. into the pulmonary tissue by means of a hypodermic syringe introduced through the intercostal tissue. These injections were continued daily, or on alternate days, for six weeks. They caused little pain or irritation. Death finally occurred after a protracted and painful struggle, with symptoms of cerebral disturbance, on April 8, 1878.

Post-mortem examination.—Head.—Not examined.

Thorax.—Left lung normal size. Presented some friable adhesions. Tissue deeply congested and crepitant throughout, and presented, in the posterior part of the upper lobe, nodules similar to the masses found in right lung. The glands about the bronchus were diseased and much enlarged. Right lung much enlarged and extending forward into anterior mediastinum, and very strongly bound down by adhesions, so that it was very difficult to remove. On removal the mass presented the general contour of the lung, so that it was evident in large part it consisted of lung-tissue infiltrated with morbid growth outside of the lung-tissue. Again, beginning at the base of the lung, there was a transverse line of demarkation, which indicated the apparent division between the lung substance and large mass of extra-pulmonary origin.

On making sections deep into the lung substance, no trace of pulmonary structure was

found. The mass was dense, and presented a yellowish-gray color, and of a firm fleshy consistence intersected by fibrinous trabeculæ. At points corresponding to the punctures minute points of softening stained by iodine were found. In the centre of the lower lobe a cavity of considerable size filled with shreds of tissue and pus, lined by a shaggy wall, existed. The size of the cavity was at least two and one-half inches in diameter. The division between the lower and middle lobes was only in part demonstrated. Through the lower and middle lobes the morbid tissue formed a uniform mass. In the upper lobe, the lung substance was replaced by an aggregation of firm nodules of varying size. In a few places there were nodular formations on the exterior of the pleura, or at least a uniform fibrinous membrane could be dissected up; and in a few places, especially on the upper lobe, it brought with it nodules springing from the pulmonary surface.

The anterior mediastinum was occupied by a dense mass tightly adherent to the anterior border of the right lung. The mass, which was partly composed of diseased glands, and partly of infiltrated connective tissue, was incorporated with the right side of the pericardial sac. On opening the latter membrane no adhesions were found to exist, only in a few points on the reflected layer, where there were small fat nodules elevated above its surface. On the other hand, there were some growths on the external surface of the heart, two of which were of considerable size, the largest being almost two inches in diameter, and elevated at least one-half inch above the surrounding level of the heart. On section it presented structure similar to the pulmonary growth, and evidently involving the muscular tissue of the heart. The glands of the posterior mediastinum were much enlarged.

The liver was somewhat enlarged, congested, and soft. There appeared to be no albuminoid degeneration.

The spleen was apparently normal.

The left kidney contained a secondary deposit, resembling a gumma, about five-eighths of an inch in diameter.

The stomach and intestines appeared healthy. No peritonitis, and no peritoneal growths. Some of the mesenteric glands were enlarged.

Nodules of varying size were found in the subcutaneous tissue of thoracic and abdominal walls. These, together with the enlarged cervical and axillary glands, were hard, and on section presented a pale yellowish-gray color and a dense fibrous structure.

The case, so far as I know, is unique and full of interest.

Report of the Committee on Morbid Growths.—"A microscopic examination of a thin section taken from the mass which occupies the position of the right lung shows it to consist almost entirely of a dense fibrillar connective tissue. The blood-vessels, which are few in number, are surrounded by an infiltration of indifferent cells. One of the small nodules taken from the left lung, upon examination, is found to consist of a similar tissue in an earlier stage of development. The alveolar spaces in the proximity of the nodule are seen to have their walls thickened by fibrillar connective tissue. The cells lining the alveoli are in a state of proliferation.

"June 27, 1878."

Cancer of the pleura and uterus. Presented by Dr. Wm. Darrach.

A. W., age 40, married, white, was admitted, March 27, 1877, in the Germantown Hospital. Breast removed by Dr. Müller; wound healed by granulation.

Re-admitted December 3, 1877. Cicatrix and enlarged axillary glands removed also by Dr. Müller.

Re-admitted third time, April 11, 1878. Died May 14, 1878.

At the time of her admission she complained of a great deal of pain and weakness. She was confined to bed. There was considerable dulness on percussion posteriorly, on the right side particularly, and some on the left.

Temperature ran from 99° to 100°.

The principal symptoms were pain and dyspnœa.

Post-mortem, thirteen hours after death.—Examination showed the following appearances and condition:

The body was somewhat emaciated. Over the left mammary region there was a large cicatrix, instead of a gland which had been removed some fourteen months before death. This cicatrix and neighboring region were interspersed with cancerous nodules.

Upon laying open the integument covering the chest, a layer of subcutaneous fat, yellowish in color, one-half inch thick, presented itself. The muscular fibres were normal in appearance.

Under the tissue of the left mammary region cancerous tissue adherent to the ribs presented itself, involving the periosteum.

The sternum and portion of ribs being removed, three pints of fluid, greenish yellow in color, were found in the *right* pleural cavity.

The *right* pleura presented some adhesive bands, and a mottled appearance, with some *nodules*.

The *left* pleura at the base was studded with small *cancerous* nodules, and contained one pint of fluid.

The costal pleura presented the same mottled appearance. The lower portion of lung adherent to the diaphragm.

Lungs.—Right much contracted and drawn to the upper portion of the cavity; crepitant and congested. When cut across, a *creamy fluid* was seen in some of the bronchial tubes, but *no nodules* of *cancer* could be detected in the lung structure.

The *left lung* was adherent to the diaphragm, and congested but crepitant. Here also there was an absence of cancerous nodules.

Heart normal in size and appearance; whitish fibrinous clot in left ventricle.

Stomach normal.

Liver full size. Several whitish nodules presented themselves, about the size of a pea, on the surface and somewhat imbedded in the substance, but none could be detected when the liver was *cut into*, as I have seen in other cases.

The *kidney* presented no abnormal appearance, except one nodule.

Uterus normal in size. A round deposit appeared outside, and upon being laid open a whitish round nodule, about one-fourth of an inch in diameter, showed itself in the right cornu.

The *spleen* was congested, and contained a nodular mass on the surface and extending into the substance. The nodules in these various organs presented the characteristic cancerous appearance.

No one organ was sufficiently affected to interfere with its function, except the lungs.

The immediate cause of death seemed to be the effusion in the pleural cavity.

The case was of interest to show how general the disease manifested itself in almost every organ except the lung, stomach, and glandular structure of the bowels, and also the choice of integument and the membrane investing organs not in the deep tissue.

Report of the Committee on Morbid Growths.—"A microscopic examination of the nodule situated in the walls of the uterus shows it to be composed of fibrillar connective tissue arranged in such a manner as to form alveolar spaces, which spaces contain large nucleated epithelial cells, demonstrating the new formation to be carcinomatous in structure, variety 'schirrhus.' Sections made from one of the nodules existing on the pleura proved by examination to consist of a similar new formation to that found in the uterus.

"June 27, 1878."

Case of disseminated miliary tuberculosis. Presented by Dr. WM. PEPPER.

H., æt. 34, clerk in Pennsylvania Railroad office. Saw him May 5, 1878, with Dr. Stillwell. Married six years. During honeymoon became insane, and remained so six months. Always correct in habits, so far as known. No history of syphilis. Again was insane, two years after, for four months. Also, at least a dozen times, while sitting conversing, would suddenly jump up, say his head ached violently, become insane, continue so for fifteen to forty minutes, fall into deep sleep for twelve or eighteen hours, and awake weak but rational. *Was this epileptic?* About December 1, 1877, began to cough, and lost flesh; and by April 23, 1878, when he consulted Dr. S., marked symptoms of disseminated tubercle of left lung. By May 1, 1878, some signs of mental disturbance; headache; drowsiness; pulse irregular; loss of appetite.

May 5, 1878, almost unconscious. No squint. No vomiting. Belly normal. Tâche méningitique quite marked. Pulse regular, 118. Respiration regular and rapid. Physical signs as before,—extensive disease of left lung and of right apex.

Symptoms advanced. May 8, 1878, squint; eyes glazing. Pulse 148. Respiration abdominal, very rapid. No tidal breathing observed, but it may have existed, as I saw him only on May 5, 6, and 8, 1878. Died same day.

Post-mortem.—Skull normal. Brain congested. Lateral ventricles contained a great deal of turbid serum. Walls very much softened. Great deal of lymph. Imbedded miliary tubercles at fissure of Sylvius on both sides over pons, optic chiasm, and intervening parts of base.

Lungs.—Left riddled with tubercles, gray and yellow; in places disseminated, in others confluent. A few cavities. Right lung, scattered miliary tubercles. Strong pleural adhesion on left side. Disease evidently quite old there. No pericarditis.

Liver congested; thickly studded with miliary tubercles.

Spleen enlarged. Capsule thickened, and patches of lymph. Numerous miliary tubercles in tissue.

Kidney congested. Quite numerous gray tubercles, larger than in spleen.

No peritonitis. Mesenteric glands not enlarged.

Microscopic examination of brain, kidney, liver, and spleen. By Drs. FORMAD and GILLIARD.

Kidney.—Was found to present a positive increase of interstitial connective tissue corresponding in appearance to the early stage of interstitial nephritis. The epithelial cells, in places, were in a state of cloudy swelling, in other places granular, and in still other spots had undergone complete fatty change.

Some of the uriniferous tubules were filled with glistening amyloid casts.

Disseminated throughout the parenchyma of the kidney were found well-defined tubercles, which were so large as to be easily recognized in a thin section by the naked eye. They presented the usual reticulated arrangement of adenoid tissue filled with more than the common number of lymph corpuscles. In places the tubercles showed spots of secondary cheesy softening; in other places they had undergone complete cheesy change.

The tubercles have evidently originated in the capillary plexus making up the Malpighian tufts.

Liver.—Shows a large number of tubercles of large size, situated principally in the outer zones of the acini; some isolated; some aggregated in groups of from four to six; many

of them characterized by the presence of the so-called giant cells; some have undergone cheesy change. There are also seen isolated spots of fatty infiltrations. Otherwise the parenchyma of the liver seems not to be impaired, except that the cells, more especially those of the outer zones of the acini, are stained with bile.

In some places between the acini are seen bands of adenoid tissue.

Spleen.—There are a great many tubercles along the smaller vessels, some isolated, others in groups.

Brain.—Pia mater.—All the blood-vessels, as well as the capillaries, are covered with tubercular masses, in many places entirely hiding the muscular structure, and in some points aggregated, forming spindle-shaped or round nodules, entirely surrounding the vessel, in other places forming a bulging on one side.

Portions of brain tissue from the neighborhood of the fissure of Sylvius and from the ventricles showed partial softening, as indicated by the presence of compound granular cells, pus corpuscles, and the débris of nerve fibres. Other portions appeared to be normal, but the vessels throughout, capillaries and blood-vessels, were surrounded and covered with tubercular masses aggregated in places to form nodules.

REVIEWS AND BOOK NOTICES.

PRACTICAL CHEMISTRY FOR MEDICAL STUDENTS. By W. M. PATTISON MUIR, F.R.S.E. Published by Macmillan & Co., London. 64 pages. Price, 60 cents.

The preface to Mr. Muir's little book forms an admirable introduction to the subject, not only for students, but to be read and remembered by instructors. The remarks on, and rules for, practical chemistry, on pages 7–18 inclusive, are very clear, and remarkably thorough for the scope of the work. Under the reaction for bases, students are liable to be much confused by the use of a reagent, as in the work before us, which often gives the same test, to all appearances, with a number of bases. We decidedly prefer the additional use of reagents which would give characteristic tests, thus making the distinctive reaction prominent; then the tables would assume, at the same time, a more analytical character than they do now. The separation of the bases is indeed one of the "possible methods," but we are inclined to think that there are other "possible methods" equally simple and much more accurate. The beginner may find it difficult to analyze a mixture by the methods given. With regard to the reaction for acids, we can but commend their completeness; while the methods for separating them are open to the same objection as those for bases.

As a whole, it is a work worthy of the student's attention, but we regret that the author has not made it a little more complete: the arrangement is, on the whole, very satisfactory.

OUTLINES OF MODERN CHEMISTRY, ORGANIC. By C. GILBERT WHEELER. Published by James McClurg & Co., Chicago. Pp. 231.

Prof. Wheeler's work contains nothing new, if we except the arrangement, beyond one or two facts based upon personal observation,—facts which are of little general interest to the student. The arrangement of the subject-matter is quite unique, bringing to the mind of the student no theoretical relation between the organic compounds or substances under consideration. The analogy between organic and inorganic compounds is dwelt upon, preference being given, in a practical sense, to those subjects which are but generally of theoretical interest. The object of organic chemistry, as taught to students, is not so much to make them conversant with the minutiæ and practical value of the substances as with the theoretical relations existing between them. This the work under consideration apparently fails to do. The analogy between the theoretical and practical synthetical methods of forming organic compounds is not, in our opinion, sufficiently developed. Of the subject-matter we can say but little, since, when it is not taken literally from the authors mentioned in the preface, it is given equally well by them.

As a compiled work on organic chemistry, it is the only one with which we are acquainted in the English language which has this peculiar and, to our way of thinking, faulty arrangement of subject-matter.

FOWNES'S MANUAL OF CHEMISTRY. Revised and corrected by HENRY WATTS, B.A., F.R.S. A new American from the twelfth English Edition. Edited by ROBT. BRIDGES, M.D.

This favorite manual, in its various editions, remains a standing proof of the truth of the maxim, "A child whom many fathers share has seldom known a father's care,"—proof, because "exceptions prove the rule." It maintains steadily its ancient character for uprightness and solidity, and in its sales seems to lose none of its headway. We commend it afresh to such of our readers as are chemically inclined.

ATLAS OF SKIN DISEASES. By LOUIS A. DUHRING. Part IV. J. B. Lippincott & Co.

This part contains plates of vitiligo, alopecia areata, tinea favosa, and eczema (rubrum), and fully maintains the very high character of the book. The plate of tinea is quite remarkable for the skill with which the peculiar expression, to use an artistic term, of the surface is brought out.

MISCELLANY.

THE TREATMENT OF CHOREA (*The Practitioner*, July, 1878).—Rosenbach calls attention to the benefit that may be derived in this disease from the employment of a constant current of elecricity as a means of determining the position of painful points, which in many instances—as, for example, on the vertebræ—cannot be determined by the mere pressure of the finger alone. In two cases of chorea—one in a girl of nine, and another in a girl of twelve years of age—he was thus enabled to discover certain painful points. To these he at once applied blisters, and subsequently a constant current of electricity, with perfect success in both cases.

THERE is a remedy which is often of great value to the sick and always grateful to the patient, but which is used with comparative rarity on account of the expense and difficulty of procuring and keeping it. This is carbonic-acid water. The Franco-American Mineral Spring Water Company of this city propose to remedy this difficulty by offering it in siphon-bottles delivered at the house at the trifling expense of ten cents a bottle. We have always found the water sparkling and overflowing with carbonic acid even to the bottom of the jug, and can therefore commend it to our readers.

THE use of horseflesh appears to be spreading. An establishment for its sale was opened upon the 4th of May in London, and in two months the edible parts of the carcasses of thirty-six horses, seven donkeys, and one mule were disposed of. The mule probably was turned into "Bolognas."

A CASE of successful abdominal section for the removal of a preserve-bottle seven inches long from the large intestine is reported in the *British Medical Journal* for August 3, 1878 (taken from *Hospitals Tidende*). The bottle was introduced for the purpose of damming back a diarrhœa.

VIRCHOW retires from politics to science.

NOTES AND QUERIES.

TO THE EDITOR OF THE MEDICAL TIMES:

DEAR SIR,—In times like the present, when the news from our Southern cities calls largely on our sympathy as we read daily of the increased mortality and spread of yellow fever, the vexed question of quarantine comes before the public, and attention is directed to its uselessness when partial, as when boats and vessels from the affected places are subjected to restrictions and delays while other means of travel and communication are left open and unguarded. It seems to me that the mistake in our quarantine and health regulations is in not insisting on total isolation, in the interests of the community at large, of cases of infectious or contagious disease, or, carrying out the same principle, of cities or districts where such disease is prevailing. This is no new idea, nor is it an impracticable one, as experience in the plague has shown. Even if the quarantine should be evaded or negligently enforced, the few cases thus developed in other centres would be far less of an evil than such a broadcast sowing of infection as we now hear of through the South and West, and the evils to the nation at large would be much diminished, while every instance in which an individual became a centre of infection in a fresh place would be the strongest possible argument in favor of a more rigid observance of the laws in future. I would advocate the enforcement of isolation not only in yellow fever and cholera but also in scarlatina and diphtheria, as well as in smallpox, and perhaps in measles,—certainly where the epidemic seems to be a malignant one.

I have been led to write thus to you from a recent experience at a watering-place of large resort. I was asked to see in consultation a boy aged twelve years, with a well-marked case of diphtheria. The family had come from a distant city, three or four weeks after the death of one of the children from diphtheria, and had been two weeks at the watering-place before the disease manifested itself. None of the clothing, etc., used in the sick-room of the child that died had been brought, and the house had been thoroughly disinfected. The only source of infection was the nurse, who was suffering, when I saw her, with a carious tooth, and had the purplish, relaxed condition of the fauces which told of her recent recovery from diphtheria; she had had it at the same time with the child that died. I could not, however, detect any ulceration or deposit in her throat. There were over three hundred persons in the house, more than one hundred of whom were children. We had the sick child and the nurse immediately removed to a cottage at some distance, and the room disinfected, as also the water-closets; the disease did not spread, and the child recovered. Such a fortunate issue, however, might not have occurred, and what would have been the result if the disease had spread? There were families gathered from all parts of the land; alarmed, they would have fled home, or to other places of public resort, carrying the disease wherever they went, and hundreds might have died from the contagion carried by that single nurse and thus propagated. I write all the more freely about this case because the child was the grandson of a distinguished practitioner, who took every care and precaution that he could to prevent the spread of contagion, and the family was not allowed to leave home until three weeks of health had apparently shown that it was safe so to do. So it would have been had not the nurse probably carried the contagion, as I believe frequently happens, in a larvated form.

If medical men would unite in this matter to show the community how these terrible scourges are thus spread, I believe there would be no difficulty in enforcing proper sanitary restrictions; the instinct of self-preservation would be aroused, and the necessary laws, many of them at present existing but disregarded, would be efficiently put in operation.

Yours, etc.,

J. CHESTON MORRIS.

1514 SPRUCE ST., PHILADELPHIA, Aug. 15, 1878.

EDITOR PHILADELPHIA MEDICAL TIMES:

MY DEAR SIR,—I notice in your last number a note from Dr. Haynes relative to dialyzed iron, and to a circular which I sent out some time since, in which I mentioned it.

I said that dialyzed iron was "an uncleanly form of iron, possessing no positive virtues, the negative one of not generally constipating only because not generally absorbed at all," and that in most cases it was absolutely inert. "When brought into admixture with either alkaline or acid solutions, however dilute, as it is when taken into the stomach, the insoluble oxide (of iron) is immediately precipitated; as all absorption takes place in the stomach by dialysis, and as oxide of iron and dialyzed iron *are colloids not capable of absorption*, unless there be great excess of acid in the secretions they are not brought to an assimilable condition, and pass away from the body with the other colloidal containings of the intestines as excrement."

As to its uncleanness there can be no controversy. Concerning its practical insufficiency I had the experience of many of the best men in the practice of medicine in this city to judge from before making the assertion that I did (I refer to Drs. Agnew, Ellwood Wilson, J. F. Meigs, Duhring, Stillé, W. F. Atlee, Keen, Cheston, Duer, Hooper, Morton, Goodman, Keating, F. G. Smith),—men whose experiences and assertions concerning such things are final and conclusive.

In regard to the correctness of the theory of its inertness and non-absorption I think there can be no dispute. That it is a colloid, and that the precipitate occasioned by its contact with the fluids of the mouth, the juices of the stomach, and the food is not a crystalloid, are indisputable. That the crystalloidal condition is necessary to assimilation is, I believe, decided, and that colloids are never absorbed I think is regarded as equally sure.

After my circular had been distributed I received my copy of Bouchardat's "Annuaire de Thérapeutique" for 1878. Referring to dialyzed iron, Bouchardat says, "Dialyzed iron should be ranged among the least active of the ferruginous preparations." Again he says, "Dialyzed iron appears to me to be, theoretically at least, the most untrustworthy [*le*

plus infidèle] of the ferruginous preparations into which oxide of iron enters, and this for two reasons. The iron called *dialyzed* does not pass through the dialyzer; it therefore rebels against absorption. Under the influence of very small quantities of alkali, of alkaline earths, of acids, of various substances of food, it is converted into an insoluble compound. *Theoretically*, I repeat it, dialyzed iron should be considered as an inert ferruginous preparation, or one of the least active ones."

With much respect, very truly yours,
GEORGE I. McKELWAY.

PHILADELPHIA, August 9, 1878.

PHILADELPHIA, August 5, 1878.

DR. H. C. WOOD:

DEAR SIR,—Since writing you the results I obtained by the use of picrate of ammonia for the immediate cure of whooping-cough, I have had some ten or twelve additional cases. I treated them in the same way, and (with the picrate of ammonia) have had the most satisfactory results. Indeed, some of the cases were cured in the marvellously short time of from twenty-four to seventy-two hours. Having had the ten or twelve cases additional to those already reported May 25, together with some fifteen or twenty cases reported to me within the past few days, I can most safely affirm that, if properly administered, the picrate of ammonia is a specific for the cure of whooping-cough. I have increased the dose somewhat; I now give to babies one-sixteenth to one-twelfth grain, to children one-twelfth to one-eighth grain every three hours, and I have observed more positiveness in the results.

I have also used in one case of diphtheria picrate of ammonia by applying as a gargle (gr. viii to Oj) and by atomization.

The solution of picrate produced a yellowish staining of the parts in such a way that I am inclined to believe a destruction of the micrococci ensued, and a speedy cure of the disease was the result. In my next case I will try to demonstrate (microscopically) the opinion I am forced to entertain by the result of the plan of treatment I carried out.

It of course will be advisable to detach thick exudations so that the picrate of ammonia solution can come in direct contact with the colonies of spherical bacteria.

With very much respect, I remain truly yours,
Z. T. DELLENBAUGH.

At the stated meeting of the Philadelphia County Medical Society, held June 19, 1878, a committee was appointed under the following resolution:

"*Whereas*, Good vision is of great importance in the career of every individual, its defects insuring more or less hindrance to success; and whereas many of these defects of sight, notably myopia, are caused or made progressive during school-life, as set forth by numerous investigations in other cities, both in Europe and this country;

"And *Whereas*, It is believed that proper attention to the lighting, seating, hours of study, character of type in textbooks, etc., etc., will do much to obviate defects of sight;

"Therefore *Resolved*, That the Philadelphia County Medical Society respectfully request the School Board of Philadelphia to extend every possible opportunity to a properly authorized member or members of the Society to examine the eyes of the school-children in the public schools of Philadelphia, and to investigate all matters pertaining to their vision and the preservation of the same."

The committee consists of five, as follows: Dr. S. D. Risley, chairman, A. Nebinger, L. Brewer Hall, A. G. Heyl, J. Collins.

CARTHAGE, JASPER CO., MO., July 24, 1878.

EDITOR PHILADELPHIA MEDICAL TIMES:

DEAR SIR,—I have a patient afflicted with epilepsy, to whom I have been giving the bromides of potassium, ammonium, iodium, and lithium, and, as he still has fits occasionally, I wanted to try a more thorough treatment, such as described in the *Boston Medical and Surgical Journal*, December 27, 1877, and called there the "Brown-Séquard Treatment in Epilepsy." I had one of our druggists put up the prescription, which is as follows:

℞ Sodii bromidi, iodidi bromidi, ammon. bromidi, āā ʒiij;
Potassii iodidi, ammonii iodidi, āā ʒiss;
Ammoniæ sesquicarb., fʒiss;
Aquæ destillat. ad fʒviij.—M.

The druggist mixed the salts, except the liquid bromide iodide, the tincture, and the water, and all seemed right, but as soon as he added the bromide iodide, a dense precipitate was formed, with evolution of fumes, as of bromine.

As he feared to send out the medicine, I kept it a few days, when the bottle burst with a noise, though placed in a sheltered position.

The bromide of iodine was obtained from Richardson & Co., of St. Louis, a reliable firm.

Would you or some reader of the *Times* state whether there *is* a way of putting together the above prescription so as to avoid chemical disturbance so violent? *Is* the bromide of iodine a liquid?

Respectfully,
ROBERT F. BROOKS.

LARAMIE CITY, WYOMING, July 1, 1878.

PROF. H. C. WOOD, JR., PHILADELPHIA, PA.:

I send you by mail a sample of the so-called *Oregon* grape. An infusion of the root is used by our mountain-men as a *febrifuge* in the so-called mountain fevers. Please give botanical characteristics and medical properties, if any, through the *Quarterly Amer. Jour. Med. Sciences*, or *New Remedies*, and oblige

Yours, etc.,
J. H. FINFROCK, M.D.

Oregon grape is Berberis æquifolium, Pursh, sometimes also called in Colorado "Mountain Grape." I have long heard of its reputed value among and from the mountain-men; but I have no personal experience with it, nor have I ever been able to get a real up-and-down statement of exactly what it would do. Dr. Engelman, in a lecture in St. Louis, says the fermented juice with sugar makes a palatable and wholesome wine. This plant ranges from British Columbia south to Monterey in California, and I have collected it on the eastern slopes of the Rocky Mountains, back of Denver.

The order Berberidaceæ does yield some active properties, and it may be worth trying. I am skeptical, however.

Yours, ever,
J. V. ROTHROCK.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM AUGUST 11 TO AUGUST 24, 1878.

BAXTER, J. H., COLONEL AND CHIEF MEDICAL PURVEYOR.—To inspect the Medical Purveying Depot at San Francisco, Cal., and, en route back to Washington, that of St. Louis, Mo. S. O. 175, A. G. O., August 14, 1878.

BROWN, J. B., MAJOR AND SURGEON.—President of Army Medical Examining Board, New York City. Relieved from duty in the Military Division of the Atlantic. S. O. 180, c. s., A. G. O.

IRWIN, B. J. D., MAJOR AND SURGEON.—Granted leave of absence for one year, with permission to go beyond sea. S. O. 176, A. G. O., August 15, 1878.

WHITE, C. B., MAJOR AND SURGEON.—Granted leave of absence for one month on Surgeon's Certificate of Disability. S. O. 179, A. G. O., August 19, 1878.

NOTSON, W. M., MAJOR AND SURGEON.—Relieved from duty in Department of the Platte, to proceed to Philadelphia, Pa., and upon arrival report by letter to the Surgeon-General. S. O. 176, c. s., A. G. O.

KINSMAN, J. H., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Baton Rouge Barracks, La. S. O. 22, Department of the South, August 7, 1878.

LAUDERDALE, J. V., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the Missouri, ordered before the Army Medical Board, New York City, for examination for promotion, and then report by letter to the Surgeon-General. S. O. 176, c. s., A. G. O.

CAMPBELL, A. B., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for three months from August 9, 1878, on Surgeon's Certificate of Disability. S. O. 182, A. G. O., August 22, 1878.

FITZGERALD, J. A., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in the Department of the Columbia, ordered before the Army Medical Board, New York City, for examination for promotion, and then report by letter to the Surgeon-General, to take effect when his services can be spared. S. O. 176, c. s., A. G. O.

TORNEY, G. H., FIRST LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort Wingate, New Mexico. S. O. 150, Department of the Missouri, August 20, 1878.